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APR 21 1992

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Federal Communications Commission
Office of the Secretary

Donna R. Searcy, Secretary
Federal Communications Commission
1919 M. Street
Washington, D.C. 20554

FCC MAIL BRANCH

Re: NERC Telecommunications Subcommittee Concerns Regarding The FCC NOPR
on 1.85-2.2 GHz Spectrum Redevelopment

Dear Ms. Searcy:

The purpose of this letter is to convey the North American Electric Reliability Council (NERC) Telecommunications Subcommittee's comments and concerns about the FCC's NOPR on 1.85-2.20 GHz spectrum redevelopment, ET Docket No. 92-9. The comments are attached.

NERC is the principal organization for coordinating, promoting and communicating about reliability for North America's electric utilities. NERC was formed in 1968 in the aftermath of the November 9, 1965 Northeast Blackout and is, therefore, very interested in any regulatory developments that might affect the reliability of the nation's electric utilities. The Telecommunications Subcommittee is responsible for telecommunications reliability issues.

Dependable communications are essential for reliable electric service. The electric utilities recognize this and have installed very dependable communications integral to their electric systems. Over 250 electric utilities operate about 6,000 microwave links in the 1.85-2.20 GHz band. These microwave systems provide extremely critical communications necessary for the operation and protection of the electric utility grid. Any loss of reliability of these essential communications will result in loss of reliability in the electric system which, in turn, can result in electric system disturbances up to and including major blackouts.

In paragraph 25 of the proposed rule making the FCC recognizes the need for reliability in the sentence "We are particularly sensitive to the need to avoid any disruption of police, fire and other public safety communications." NERC strongly believes that the reliability of the nation's electric grid and therefore, its communications, is every bit as critical due to the need to serve the above agencies as well as hospitals and other public facilities. Reliable electric service is also essential to today's highly technical industrial and financial backbone.

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The primary thrust of the NOPR appears to be to encourage current licensees to move to new technology such as fiber optics. Electric utilities can do this in many cases. Such a move would be extremely expensive, require many years to complete, and would not be without reliability problems. Such a move would come at a time when regulatory rate pressures already have electric utilities concerned about loss of reliability.

NERC believes the reliability issue is important enough that the FCC should reconsider options such as obtaining Government controlled spectrum for new users or assigning the new users, who stand to gain financially from spectrum use, to the higher frequencies even if this requires more product development.

The 800/900 MHz reallocation in the early 1970's apparently did not involve significant public service reliability issues. The 1.85-2.20 GHz reallocation being proposed by the FCC does. NERC urges the Commission to carefully consider individual electric utility comments and the overall importance of electric reliability prior to any final rule making.

Thank you for your consideration.



Sam R. Jones, P.E.
Chairman, NERC Telecommunications Subcommittee

Electric Utility Department
721 Barton Springs Road
Austin, Texas 78704
512-322-6573

Attachment

xc: Michehl R. Gent - President NERC
Ward Uggerud - Past Chairman NERC Operating Committee
Rich Nassief - Chairman NERC Operating Committee
NERC Telecommunications Subcommittee members

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Federal Communications Commission
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**NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL
TELECOMMUNICATION SUBCOMMITTEE
COMMENTS REGARDING FEDERAL COMMUNICATION
COMMISSIONS NOTICE OF PROPOSED RULE MAKING - ET DOCKET NO. 92-9**

Comments regarding proposals in the FCC NOPR on reallocation of the 1.85 - 2.2 GHz spectrum are as follows:

1. Encourage licensees to move to higher frequency bands, --especially path lengths of under 10 miles to relocate to frequency bands above 10 GHz. - Electric utilities have found higher frequency bands to be less reliable for longer paths. This is especially true during heavy rains and storm conditions when the communications are very important for system operation. The frequency bands above 10 GHz are very rain resonant. Requiring new users with lower reliability requirements to use higher frequency bands should be reconsidered.
2. Encourage fixed licensees to consider other non-radio alternatives, particularly fiber optics - Electric utilities can utilize fiber optics. The conversion to fiber is very expensive. Placing fiber underground along existing rights of way creates significant trenching problems, can require re-negotiation of easements, and leaves the fiber subject to dig in damage. The best technology at present appears to be Optical Power Ground Wire (OPGW) which is installed on top of electric transmission lines as a lightning shield and ground wire. Placing OPGW on existing transmission lines requires the line to be removed from service during the replacement process. Most transmission lines can be taken out of service only during very limited time periods due to electric load considerations. These transmission outages frequently cause increased operating costs to the utilities' customers. In most cases OPGW is thicker and heavier than the conductor it replaces and can necessitate the replacement of existing poles and towers on the transmission line. The fiber optic replacement of an existing microwave system would normally take years to complete and at a very high overall cost.
3. Operation on a secondary basis - Electric utility communications are critical to electric reliability and are not acceptable on a secondary basis in most installations. The possibility of having to cease operation of an electric system protection or control link which would take over a year to replace is not dependable communications.
4. New users negotiating financial arrangements with existing licensees - Electric utilities appreciate this concern for financial wholeness. In most cases electric utilities would require years to replace existing microwave systems, especially if fiber optics is used. It is doubtful that new users would be willing to pay the necessary costs of replacement and then wait for several years while the transition

occurs. Electric utilities could not do without communications in the conversion period. New users may not be interested in negotiating for all of an electric utilities' service area. This could pressure the utility to replace only part of its communications and utilize a more complex hybrid system.

5. Phased spectrum approach - Depending on their distribution of frequency allocations, electric utilities could find random links in their communications systems being phased out at each interval and have to utilize a more complex hybrid system.
6. Spectrum allocated to the Government - Electric utilities recognize the possible delay and uncertainty that would be involved in obtaining reallocation of such spectrum. However, the importance of reliability of electric service should be considered in such a decision and reallocation of Government allocated spectrum should be pursued even if there is a delay.
7. More efficient use of spectrum - The evolving technology of data compaction appears to be one way in which more users can share the existing spectrum and should be considered by the Commission ahead of relocating current 1.85 - 2.2 GHz users.
8. General comment - Replacement of an electric utility communication system is not a simple task. The distance, terrain, and electric system configuration dictates heavy engineering involvement for most paths. The reliability of electric service to public safety, public health, industry, defense, financial institutions and the general public depends on adequate, dependable communications in the electric system on a full time basis. The individual comments and concerns submitted by the electric utilities should be carefully studied prior to any decision by the Commission.